IN THE ABSTRACT OF THE DISCLOSURE

Please add the following Abstract of the Disclosure to the Substitute Specification.

--ABSTRACT OF THE DISCLOSURE

A microprocessor 10 incorporating a modified Harvard architecture connected to two memory banks 100 and 114. The main CPU also includes two pushdown stacks 104,108. One of the stacks has its top two items connected directly to an arithmetic-logic unit 103. In addition hardware is provided to perform seven operations on the top three stack elements. The instruction length of the microprocessor is 8 bits and most instructions execute in a single clock cycle. A unique feature of the instruction set is that 128 of the 256 possible bytecodes are user-programmable. Some regular instructions can be "folded" with the "return from subroutine" instruction. This allows the efficient implementation of a wide variety of virtual machines, such as the Java Virtual Machine. The microprocessor also contains dedicated registers and circuits for the efficient implementation of dynamic variables 112, 32-bit immediate constants 109 and 110, interfaces to dedicated co-processors and interfaces to local area networks allowing dynamic upgrades of application software.--